

WHAT IS CLAIMED IS:

1. A movable robot apparatus comprising:

safety level status detecting means for detecting a safety level status;

safety level detecting means for detecting a safety level of said safety level status detected by said safety level status detecting means; and

control means for performing a control process so as to implement prescribed countermeasures according to said safety level status detected by said safety level status detecting means and said safety level detected by said safety level detecting means.

2. The robot apparatus according to claims 1, wherein:

safe space is defined so as to correspond to each safety level status to be detected by said safety level status detecting means; and

said safety level detecting means detects said safety level of said safety level status based on a volume of the safe space corresponding to the safety level status detected by said safety level status detecting means.

3. The robot apparatus according to claim 1, wherein

said control means performs said control process so as to implement said countermeasures according to a position of said safety level status detected by said safety level status detecting means and said safety level of the safety level status.

4. The robot apparatus according to claims 3, wherein

said control means performs said control process so as to implement different countermeasures depending on whether said position of said safety level status is in an upper body or a lower body of said robot apparatus.

5. The robot apparatus according to claim 1, wherein

a priority is previously set according to a position of said safety level status and/or said safety level of the safety level status; and

said control means, when said safety level status detecting means newly detects a safety level status with a higher priority while said control process to implement said countermeasures is performed, changes the control process so as to implement countermeasures against the safety level status newly detected.

6. A control method of a movable robot apparatus, comprising:

a first step of detecting a safety level status and

detecting a safety level of the safety level status detected; and
a second step of performing a control process so as to make
said robot apparatus implement prescribed countermeasures
according to said safety level status detected and said safety
level detected.

7. The control method according to claim 6, wherein:

safe space is defined so as to correspond to each safety
level status; and

in said first step, said safety level is detected based on a
volume of the safe space corresponding to the safety level status.

8. The control method according to claim 6, wherein,

in said second step, said control process is performed so as
to make said robot apparatus implement said countermeasures
according to a position of said safety level status detected and
said safety level detected.

9. The control method according to claim 8, wherein,

in said second step, said control process is performed so as
to make said robot apparatus implement different countermeasures
depending on whether said position of said safety level status is
in an upper body or a lower body of said robot apparatus.

10. The control method according to claim 6, wherein

a priority is previously set according to a position of said safety level status and/or said safety level of the safety level status; and

in said second step, when a safety level status with a higher priority is newly detected while said control process to make said robot apparatus implement said countermeasures is performed, the control process is changed so as to make the robot apparatus implement countermeasures against the safety level status newly detected.

11. A movable robot apparatus comprising:

safety level status detecting means for detecting a safety level status; and

control means for performing a control process so as to implement prescribed countermeasures according to a position of said safety level status detected by said safety level status detecting means.

12. A control method of a movable robot apparatus, comprising:

a first step of detecting a safety level status; and

a second step of performing a control process so as to make

said robot apparatus implement prescribed countermeasures according to a position of said safety level status detected in said first step.

13. A robot apparatus having a plurality of movable units, comprising:

driving means for driving said movable units;

control means for controlling said driving means;

object detecting means for detecting an object;

action determination means for determining an action of said robot apparatus; and

safety level detecting means for detecting safety level involving said object and said movable units, wherein

said control means moves said movable units based on said safety level and said action determined by said action determination unit to mitigate or avoid danger.

14. The robot apparatus according to claim 13, wherein

safe spaces are set around said movable units; and

said safety level is obtained by imaging a relation between said object and said movable units as the safe space.

15. A control method of a robot apparatus having a plurality of

movable units, said control method comprising:

a first step of determining an action of said robot apparatus;

a second step of, when an object is detected, detecting safety level involving the object and said movable units; and

a third step of moving said movable units based on said safety level detected and said action determined to mitigate or avoid danger.

16. The control method according to claim 15, wherein

safe spaces are set around said movable units; and

in said second step, said safety level is obtained by imaging a relation between said object and said movable units as the safe space.